FTTH

What is FTTH?

Fiber to the Home or simply **FTTH** is a technology that uses optical fiber directly from the central point to the residential premises (as shown in the following image). It provides uninterrupted high-speed internet service. Here, "H" includes both home and small business.

FTTH is the ultimate fiber access solution where each subscriber is connected to an optical fiber. The deployment options discussed in this tutorial are based on a complete optical fiber path from the **Optical Line Termination** (OLT) right to the subscriber premises.

This choice facilitates high bandwidth services and content to each customer and ensures maximum bandwidth for future demands of new services. Therefore, Hybrid options involving 'part' fiber and 'part' copper infrastructure networks are not included.

As an access to the home over fiber, Fiber to The Home (FTTH) scenario is mainly for the single family unit (SFU), providing a comparatively small number of ports, including the following types — POTS, 10/100/1000 BASE-T, and RF (18dBmV).

Optical Fiber Method can be deployed in two ways: Active Method and Passive Method. The current mass FTTH deployment is based on the passive method. Hence, let's discuss the Passive Method in detail.

Passive Method − The two typical technologies used in this method are **Ethernet Passive Optical Network** (EPON) & **Gigabit-capable Passive Optical Networks** (GPON). Refer the following image.

Why FTTH?

Fiber offers a number of advantages over the previous technologies (Copper). The most important ones are as follows −

- Enormous information carrying capacity
- Easily upgradeable
- Easy to install
- Allows fully symmetric services
- Reduces operations and maintenance costs
- Covers very long distances
- Strong, flexible, and reliable
- Allows small diameter and lightweight cables
- Safe and secure
- Immune to electromagnetic interference (EMI)
- Lower cost

ADVANTAGES

1. Internet Speed: One of the biggest advantages of FTTH is the improved internet speed. Internet is continuously becoming the backbone of most communications, around the world. Whether people want to stream videos, download files, or even have video-chats – internet speed is the deciding factor. By enhancing the internet speeds that people received, FTTH is making it possible for people to stay in touch. Moreover, an increasing number of people are working from home; and faster internet speeds help them stay connected at all times.

2. Technology: When we consider the traditional copper, they make use of analog lines that generate signal through the connected telephone device. As the description suggests, this technology is less defined, especially when you compare that with Fiber Optic.

3. Upcoming Applications: There are various new applications coming up for FTTH. Hence, by having FTTH – households stay connected with the latest in technology.

4. Vendors: It is easy to find vendors for Fiber to the Home, and that is another benefit of having this all new technology.

DISADVANTAGE

1. The only disadvantage of having FTTH cable is the cost associated with having the cable and having it installed. Many households might not be able to afford the same. However, there is another concept called Fiber to the Premises (FTTP), which brings Fiber to a particular locality. That is cheaper to be installed as compared to Fiber to the Home (FTTH).

Conclusion

No one can deny that the FTTH has completely transformed the way of communication in recent years. It is going on the path to becoming a norm. If you have a query regarding the FTTH, then tell us in the comment section.

Reference

- www.google.com
- www.wikipedia.com
- www.studymafia.org